

SUMMARY FOR [FE-32-03](#)
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Burlington Northern Santa Fe Corporation

Location: Argyle, Iowa

Region: Region 6

Month: October

Date: Oct. 30, 2003

Time: 1:30 p.m., CST

Data for Fatally Injured Employee(s)

Track Foreman

60 years old

28 years of service

Last rules exam: Feb. 2, 2003

Last safety training: May 28, 2003

Last physical: Unknown

Data for All Employees (Craft, Position, Activity)

Craft: Maintenance of Way

Positions:

Medill Section Gang

Foreman

Number of Members and Specific Roles Not Mentioned

Fort Madison Section Gang

Fatally Injured Foreman

Two Additional Gang Members

Surfacing Gang

Foreman

Two Tamper Operators

Ballast Regulator Operator

SUMMARY FOR FE-32-03 CONTINUED
SELECTED FACTORS CONTINUED

Data for All Employees Continued

Union Pacific Auto Rack Train, Train Symbol AGBPX-30

Engineer

Other crew members not mentioned

Contractor (who performed maintenance of a truck performance detector)

Activities: Track Maintenance. Specifics follow:

Medill Section Gang: Changing out an insulated joint plug.

Fort Madison Section Gang: Assisting a Contractor with maintenance of a truck performance detector.

Surfacing Gang: Tamping various locations between Argyle and Medill, including above detector.

EVENT

While directing track maintenance activities, a Track Foreman was struck by an on-coming freight train and fatally injured.

POSSIBLE CONTRIBUTING FACTORS

PCF No. 1

The Foreman of the Fort Madison Section Gang (who was fatally injured) was found in violation of railroad operating rules because he fouled the adjacent track without track authority or protection.

PCF No. 2

Investigators concluded that because the Foreman was next to a tamper in full operation, he did not hear the approaching train's whistle until its arrival at the accident site.

PCF No. 3

Investigators concluded that the joint briefing was inadequate because it did not include information on the hazards of live track.

REPORT: FE-32-2003

RAILROAD: Burlington Northern Santa Fe Corporation (BNSF)

LOCATION: Argyle, Iowa

DATE & TIME: Oct. 30, 2003; 1:30 p.m., CST

EVENT¹: While directing track maintenance activities, a Track Foreman was struck by an on-coming freight train and fatally injured.

EMPLOYEE:

Craft:	Maintenance of Way (MOW)
Activity:	Track Maintenance
Occupation:	Track Foreman
Age:	60 years
Length of Service:	28 years
Last Rules Exam:	Feb. 2, 2003
Last Safety Training:	May 28, 2003
Last Physical:	Unknown

CIRCUMSTANCES PRIOR TO THE ACCIDENT

On Oct. 30, 2003, an MOW Foreman, with 28 years of railroad experience, was providing on-track protection for a Contractor engaged in the maintenance of a truck performance detector in BNSF's Marceline Subdivision, of the Chicago Division, near Argyle, Iowa. This maintenance took place on a 3-degree, 4-minute, right-hand curve, at milepost (MP) 251.4, on Main Track No. 2.

Three work groups (the Medill Section Gang, Fort Madison Section Gang, and a small surfacing gang) had joint track authority in the area between Argyle and Medill, Missouri. The three groups held a joint briefing first thing in the morning concerning the planned work for the day. The Medill Section Gang would be changing out an insulated joint plug at MP 259; the Fort Madison Section would be assisting a Contractor with the maintenance of a detector at MP 251.4; and the surfacing gang would be tamping various locations between Argyle and Medill, with work to do at the detector at MP 251.4. During the briefing, the surfacing gang was

¹ "Event" is defined as "occurrence that immediately precedes and directly results in the fatality." Possible contributing factors are identified in the following report and attached summary.

instructed not to proceed west of Hinsdale crossing (320th Street, DOT No. 004-971B), at MP 251.15, without first contacting the Foreman working with the Contractor. The Foreman would then assist with the tamping around the detector.

The first track authority was granted to the Foreman of the Medill section gang, then to the Foreman of the Fort Madison section gang, and last to the Foreman of the surfacing gang. All Foremen contacted the others prior to entering their joint limits, as required.

The surfacing gang, comprising two Tamper Operators and one Ballast Regulator Operator, approached the work area of the Fort Madison section gang's Foreman, as per joint track authority. The Machine Operator in the lead machine, a Jackson 6700 tamper, stopped east of the road crossing at MP 251.15 and began to dismount to walk down to the Foreman's location. Seeing this, the Foreman contacted the Machine Operator, via radio, and instructed him to work around the road crossing, as they needed more time to complete their task. A short time later, the Machine Operator observed the Foreman beginning to pick up his tools. The Machine Operator stopped tamping and walked down to talk with the Foreman. The Foreman instructed the Machine Operator to move the machines back, east of the road crossing, so he could set his truck off the rail.

After clearing the road crossing and setting off the truck, the Foreman and the surfacing gang conducted a job briefing to discuss the task to be performed. The Lead Tamper Operator was instructed to proceed to the location to be surfaced just east of the east sensor units of the truck performance detector. When the machine got close to the area around the detector sensors, the Foreman would assist the Operator in tamping so as not to damage the performance detector.

The Machine Operator proceeded down to the location to be tamped and began to work. The Foreman walked between Main Track No. 1 and Main Track No. 2, to the detector's sensor, approximately 880 feet from the center line of the road crossing. The Foreman passed the tamper on the north side of the track between Main Track No. 1 and Main Track No. 2. He passed in front of the tamper, which was heading west, and sat in the clear by the sensor, on the south side of Main Track No. 2. When the tamper approached the sensors, the Foreman communicated via handheld radio with the Tamper Operator that he would notify him when he was within three ties of the sensor. The Foreman chose a position between Main Track No. 1 and Main Track No. 2 to make his observation of the tamper's work heads. The Foreman notified the Tamper Operator that he was at the third tie, and the Tamper Operator took the tamper out of production mode and put it into switch mode. This would give him more control of the work heads. The Foreman guided the Tamper Operator around the sensor via radio, letting him know when to clamp the rail with his tamper.

After tamping the first tie west of the sensor, the Foreman came up to the tamper, opened the door, and told the operator he could clamp now, use all four heads, and continue on his own.

The Foreman shut the tamper door and moved to a position standing on the south side of Main Track No. 1 at the end of the ties and continued to observe the tamper.

At the time of the accident, the sky was clear, and the temperature was 70° F.

THE ACCIDENT

At approximately 1:30 p.m., CST, a BNSF MOW Foreman was struck by a Union Pacific Railroad (UP) Auto Rack Train, Train Symbol AGBPX-30. The train was traveling west at a recorded speed of 45 mph, on Main Track No. 1. (The posted speed for this area was 45 mph for freight trains.) The train crew had gone on duty in Fort Madison, Iowa, at 12:10 p.m. CST, en route to Kansas City, Missouri. After sounding the whistle for the Hinsdale highway-rail grade crossing at MP 251.15, the Engineer of the UP train saw track machines on Main Track No. 2 and a man standing on Main Track No. 1, across from a tamper. He immediately began to sound the whistle again and applied an emergency application to the train's air brake system, but indicated he did not believe the Foreman ever looked up. After being struck, the Foreman's body was thrown approximately 89 feet west, landing on the front buggy of the tamper. The Foreman was pronounced dead at the scene.

POST-ACCIDENT INVESTIGATION

FRA has conducted interviews with the BNSF surfacing gang, Medill section Foreman, and both remaining members of the Fort Madison section gang. Interviews were also conducted with the UP train crew, the Contractor maintaining the detector, and the deceased Foreman's wife. The interview with the deceased's wife revealed that the Foreman had recently received a good checkup with a doctor, and the only prescription drug he was taking was for high blood pressure. She described her husband as well rested the day of the accident and could think of no reason her husband would have been distracted.

A re-enactment, performed on Oct. 31, 2003, revealed that from where the Foreman stood to the point where the westbound train on Main Track No. 1 could first be seen was a distance of approximately 823 feet, with an elapsed warning time of approximately 13 seconds. It was also determined that the position of the Foreman next to the tamper, while in full operation, would have made it very difficult to hear the approaching train whistle until its arrival.

Post-accident toxicology tests performed on the UP train crew revealed negative results. A postmortem toxicology test on the deceased Foreman revealed negative results.

APPLICABLE RULES

In summary, investigators found the Foreman in violation of BSNF's MOW operating rules because he fouled the adjacent track without track authority or protection. They also concluded that the Foreman, along with the three members of the surfacing gang, provided an incomplete job briefing which did not include hazards of live track. The following specific Federal regulations as well as railroad operating and safety rules were violated:

Burlington Northern Santa Fe Maintenance of Way Operating Rules

1.20 Alert to Train Movement

6.0 Movement of Trains, Engines and On-Track Equipment

6.3 Occupying or Fouling Track

6.3.1 Track Occupancy

Burlington Northern Santa Fe Maintenance of Way Safety Rules

S-1.1 Job Safety Briefing

S-13.1.3 Tracks
C. Fouling Track

S-25.1 Job Safety Briefing

Code of Federal Regulations Title 49 Part 214 Railroad Workplace Safety Subpart C - Roadway Worker Protection

§214.313 Responsibility of individual roadway workers.

§214.313(a)

- (a) Each roadway worker is responsible for following the on-track safety rules of the railroad upon which the roadway worker is located.

§214.313(b)

- (b) A roadway worker shall not foul a track except when necessary for the performance of duty.

§214.313(c)

- (c) Each roadway worker is responsible to ascertain that on-track safety is being provided before fouling a track.

§214.315 Supervision and communication.

§214.315(a)

- (a) When an employer assigns duties to a roadway worker that call for that employee to foul a track, the employer shall provide the employee with a job briefing that includes information on the means by which on-track safety is to be provided, and instruction on the on-track safety procedures to be followed.

§214.315(b)

- (b) A job briefing for on-track safety shall be deemed complete only after the roadway worker has acknowledged understanding of the on-track safety procedures and instructions presented.